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PROCEEDINGS
OF
THE ROYAL SOCIETY.

1840—1841.

No. 46.

December 10, 1840.

SIR JOHN W. LUBBOCK, Bart., V.P. and Treas., in the Chair.

A Memorandum, addressed to the Royal Society, November 28th, 1840, by Martin Barry, M.D., F.R.S., L. & Ed., was read.

Dr. Barry, in reference to the memorandum of Mr. Wharton Jones, claiming for himself the contemporaneous discovery of the germinal spot in the mammiferous ovum, states that, after having bestowed considerable pains to ascertain who was the original observer of a structure which has proved to be of great importance, he had mentioned incidentally in his paper the result of his inquiry, namely, that the merit of the discovery was due to Professor Rudolph Wagner; but observes that the inquiry may be resumed by all who will take the trouble to examine the works, both in German and English, on this subject; and that he will ever be open to conviction, and ready to declare his change of opinion, on the production of sufficient evidence.

A communication was also read, entitled "Supplementary Note to a Paper, entitled 'Researches in Embryology. Third Series: a Contribution to the Physiology of Cells.'" By Martin Barry, M.D., F.R.S., L. & Ed.

In the paper referred to, the author had shown, that after the ovum of the Rabbit has entered the Fallopian tube, cells are found collected around its thick transparent membrane or "zona pellucida"; which cells, by coalescing, form a thinner membrane—the incipient chorion. He now adds, that the formation of this thinner membrane does not exhaust the whole layer of these cells; but that a stratum of them is found remaining on, and entirely surrounding the "zona", after the thinner membrane has risen from it. The fluid space also, between the "zona" and the thinner membrane, presents a large number of cells or discoid objects, each of which contains a brilliantly pellucid and highly refracting globule. In some parts, several of these discs, closely joined together, have the appearance of shreds of membrane; in others, there are found pellucid globules, some of which are exceedingly minute. The discs now mentioned collect at the periphery, for the thickening of the chorion. They seem to

proceed from the region of the "zona"; and probably have their origin in the cells by which the latter is surrounded. If so, the author thinks we cannot suppose them to arise in any other way than that which, according to his observations, appears to be the universal mode of reproduction; namely, by division of the nuclei of the parent cells. Nor can we suppose that minuteness is any hinderance to their subsequent increase by the same means.

December 17, 1840.

The MARQUIS OF NORTHAMPTON, President, in the Chair.

The following communications were made to the Society, viz.

1. "Present state of the Diamond Mines of Golconda." By T. J. Newbold, Esq., of the Madras Army, A.D.C. to Major-General Wilson, K.B. Communicated by S. H. Christie, Esq., M.A., Sec. R.S.

The author gives an account of the tract of country in which the diamond mines of Golconda are situated, and of the processes by which the diamonds are obtained. The latter consist merely in digging out the rolled pebbles and gravel, and carrying them to small square reservoirs, raised on mounds, having their bottom paved with stones, and then carefully washing them. Dry weather is selected to carry on these operations, in order to avoid the inconvenience and expense of draining. A description is then given of the mines of Banaganpully, Munimudgoo, Condapilly, Sumbhulpoor, and Poonah in Bundlekund.

2. "Magnetic-term Observations made at Milan." By Professor Carlini, Director of the Observatory at that place: also "Magnetic-term Observations made at Prague." By Professor Kreil, Director of the Observatory at that place.

3. "On the Production of Heat by Voltaic Electricity." By J. P. Joule, Esq. Communicated by P. M. Roget, M.D., Sec. R.S.

The inquiries of the author are directed to the investigation of the cause of the different degrees of facility with which various kinds of metal, of different sizes, are heated by the passage of voltaic electricity. The apparatus he employed for this purpose consisted of a coil of the wire, which was to be subjected to trial, placed in a jar of water, of which the change of temperature was measured by a very sensible thermometer immersed in it; and a galvanometer, to indicate the quantity of electricity sent through the wire, which was estimated by the quantity of water decomposed by that electricity. The conclusion he draws from the results of his experiments is, that the calorific effects of equal quantities of transmitted electricity are pro-